1: Lorimer T-3 (1920-4; 1934-5) 1938 AV7 Burusho AV7

these narrow planks placed side by side and pierced by horizontal holes through which two parallel rods are threaded ; the hinge is a longer piece of wood pointed at both ends and rotating into holes in threshold and lintel ; while the whole is secured by an ingenious wooden lock. Most villages, however, now possess a carpenter or two, trained in the P.W.D. workshop at Gilgit and armed with plane and saw, who can produce more Europeanized doors and cupboards, to the greater comfort of their owners and the selfish regret of the anthropologist. The old, home-made door is still in use for barn and byre.

Every peasant family is almost entirely self-supporting and independent, eating the produce of its own laboriously and beautifully terraced fields (PLATE I), wearing the woollen cloaks and caps spun and woven from the wool of its own sheep, and booted from the skin of its own beasts. The only foreign garments worn are the cotton shirts and trousers of comparatively recent introduction, now considered indispensable by both sexes, and the merry little cotton caps, plain or silk-embroidered, which have replaced the heavy woollen salvation-army bonnet of the women. Butter is made and water carried in skins ; grain and flour are carried in skin-bags or sacks and stored in skin-sacks or wooden bins. Rugs, saddlebags and ropes are woven of goat's hair.

In a country where no unirrigated tree can grow, timber is very scarce. An old apricot or appletree is sometimes available, or the root of an old vine, otherwise the only general timber is the poplar, grown primarily for poles and rafters, and the willow, absolutely essential for baskets (PLATE II), a dozen varieties of which are needed for carrying apricots, manure, dry leaves, straw etc., and for storing potatoes and dried fruit.

[134]

The soil of Hunza is unimaginably poor, consisting in fact of little but powdered-up mountain side. The scarcity of water means also the non-existence of pasture, and the few animals that can be fed eke out a spartan existence on the scraps of grass growing on the rare semi-irrigated strips of hillside or beside the water-channels, and on such weeds amongst the growing crops as are not earmarked for human consumption or remain after the crops have been reaped. This scanty provision is supplemented by the autumn harvest of dry leaves (not one of which lies on the ground ungarnered), the straw and stubble, and occasionally a small quantity of dried grass. Only a few families command enough land and water to grow a little lucerne for fodder. The most livestock that the average household of 10 to 20 persons

Hunza is a country that lies along the Hunza River from Secunderabad to the Chinese border, a distance of somewhere around 200 miles, but no one has ever actually measured it. At the narrowest point it is less than half a mile wide. At its broadest, it is not quite two miles. Usually the only piece of flat land in a village is the polo field. Good, rich, deep soil as Westerners know it is absolutely unknown in Hunza.

Whenever a house is built here, they seldom ever use a piece of fertile soil or soil of any kind. They usually erect it on rock or on a steep hillside where that piece of land could not have been used for agriculture anyway.

Practically every bit of farm land is terraced. It can be said, it is actually cut out of the rocks of the mountainside which is the north bank of the Hunza River.

Of the total length of 200 miles, only a small fraction is at all arable. Most of it is solid rock or terrain so steep that horticulture of any nature is impossible.

Rainfall is scanty. They cannot depend upon it at all for crops. In order to get sufficient water, hand built and similarly maintained conduits bring water down from glaciers. These conduits are carefully erected and trained to run alongside the villages where the water can be trapped to flow where desired and used to irrigate their lands, also for drinking and all other necessary purposes.

There are four main conduits in Hunza and they are as follows:

Murku—This is at the highest level of all the aqueducts and carries the most water.

Barbar—Supplies the Baltit-Altit area.

Dala—This is the longest—extends as far as Aliabad. Supplies Kerimabad.

Hamachi—The smallest which runs as far as the tiny village Ganesh, located on a cliff's edge.

7:Tobe C, T-3 (1959)1960 AV7 Burusho AV7
Hunza

There is more wheat grown in Hunza than any other single grain crop. Therefore the wheat they use must be one of the vitally important contributors to the health of these people. 243 [164]

If you will take time to study the habits or the peculiarities concerning the growing of wheat, you will quickly learn that wheat will not grow on poor or unbalanced soils. One of the first things that my father taught me many long years ago was that your best land must be used if you want to grow a good crop of wheat. Rye or barley, he told me, you can grow most anywhere, but wheat is funny. If the nutrients aren't there in the soil, the wheat will not grow and your crop will be a failure. All through my travels in Nagir and Hunza I saw wheat and it looked good. It wasn't the same tall wheat that we grow in the Canadian West, but it was wheat and the yield was comparatively bountiful, which means that the Hunzan soil must contain the required nutrients—and to grow wheat, there are many.

Therefore there is a direct connection between the nutrient contents of the soil of Hunza and the wheat that it grows, the flour that they use, the bread that they eat and the health of these people.

Here and now I want to explain that I am not making decisions for anyone. I am trying to lay down the facts as I found them. As stated above, in order to grow good wheat or even to grow wheat at all, the soil must contain all of its required nutrients. It is obvious, therefore, that the soil has the required nutrients and as all of the Hunzan soil is shallow, these nutrients must be regularly reincorporated into the soil. 243 134

I have already related that everything that is taken from the soil is returned to the soil by the natives. Consequently we know that nothing is lost. Hunza does not export food. That I know, because there is barely 243 [439]

7:Tobe C,T-3 (1959)1960 AV7 Burusho AV7
Hunza

241 minerals and by allowing these glacial streams to be spread over the soil, the nutrients are left in the soil as the water soaks into it.

The principle of returning to the land that which belongs to the land has been and is, at the present time, scrupulously followed. The only farm implement which [407] I could find on the Hunzan farms was the primitive [492] plow and invariably it was pulled by a bullock. The plowing is never deep and is practiced chiefly to sort of clean the field, cover the organic matter that has been spread upon it or left upon it and prepare the field for the next crop.

[44] All the work that has to be done is done by hand—with or without the assistance of domesticated farm animals. There is no substitute for manual labor and the men, women and even young children share in the farm work.

[137] From what I could observe, weeds were not a problem and the reasons are clear. There are few indigenous, native plants in the area. Practically all of the growing plants that I could spy were in cultivated areas. The maxim in Hunza evidently is if a place can grow weeds, then it should be cultivated and usually that principle is followed. This all adds up to the fact that there are few weed seeds distributed in the area and therefore they are not in the soil to spring up, whenever the farmer's back is turned.

[134] I want to stress once more that the mineral requirements of the fields of the Hunza farmer are met and replenished by the fine silt, ground by the glaciers from the rocky surfaces and carried down to the Hunza farmers by the conduits and spread on their land.

Our modern civilization attaches great importance to and stresses the value of flavor and appearance in

136 pigeons and doves. They also vouch for the fact that sparrows, skylarks, nightingales, canaries, magpies, falcons and hawks were part of the common scene throughout the district.

The P.A. told me that on his hunting excursions he has on a few occasions come across both brown and black bears and I know there are also leopards, because the P.A. presented me with the hide of one of them, which now graces the living room of my son's home.

Inasmuch as small animals are concerned, I don't think you'd find too many. They like to go where food is more readily available than is the case in the sparsely vegetated Hunza area.

[134] I don't think burrowing animals would be common to the district, because one can't very readily burrow through rock, and that is what 99% of the Hunza terrain consists of.

231 Incidentally, the goats that are kept by the Hunzan farmers are not by any stretch of the imagination similar to the larger ibex that are found in the hills. The Hunza goat is a diminutive fellow that is bred for its dwarfness and ability to give lots of milk for its size.

223 224 Apart from the fall duck hunt when myriads are felled, and the occasional hunt with shikari to bring down the renowned ovis poli (Marco Polo sheep) from the 18,000 foot pinnacles, Hunza cannot be called a hunter's paradise.

7:Tobe C,T-3 (1959)1960 AV7 Burusho AV7
Hunza

126 "nothing" where the ledge once led . . . a few well
192 appointed steel rods forced into fissures being the total
441 support. As yet I have failed to discover or learn the proper word describing these galleries.

114 I must admit that many or most of the errors or misconceptions concerning Hunza are due to the fact that insufficient time was spent by some of the writers who visited Hunza.

At first it was my wish to pass by this chapter on misconceptions because I did not feel that I should be involved in a hassle with other writers. But then I asked myself if I had any doubts as to whether or not I was right. And this made me feel that I definitely wanted to write the chapter on misconceptions.

It is not my intent or desire to be contradictory nor arbitrary. I am not seeking to pick a quarrel with anyone. But the facts and statements herein related are based on my seeing, hearing, research, questioning and investigating.

I have tried to make my book as accurate as humanly possible. And if and when errors are found, I trust they will be brought quite forcibly to my attention. I would like to believe that if I can dish it out, I can take it, too!

134 *Fertile valleys*—Some writers have referred to various valleys in Hunza as fertile valleys. By the standards to which we are accustomed, there is not one single fertile valley in all of Hunza. That the soil is productive and the valley green and beautiful, no one will deny. But at best the soil in Hunza is shallow and to be productive, it must be maintained assiduously. I repeat, in Hunza there are no such things as naturally fertile valleys as compared, for example, to parts of the Willamette Valley in Oregon.

131 *Hunza is scarcely* 60 *miles long*, says one writer. An-
133 other says it is 80 miles long and elsewhere I saw it

into the "low, barrel chests" reported by travelers. (I found that when they took off their shirts the low, barrel chests revealed strong asymmetry, with ribs notably warped by rickets.) During my first winter, I developed a typical case of beriberi, even though my diet was more varied than theirs and was adequate in quantity.

The basic trouble rests not with the Hunzas, who are vain, intelligent, and hard-working, but with their country. There is no flat land to all of Hunza. Villages and farms are built on alluvial cones—fan-shaped masses of gravel dumped by streams rushing from mountain glaciers down into the valleys—and the small cultivated areas simply are not extensive enough to support the constantly increasing population. (The Mir estimated the population of his country at 25,000 in 1951. According to one of the last of the British agents stationed in nearby Gilgit, Hunza's population was increasing at the rate of 30 per cent each decade. Rising emigration and the absence of written records obscure the reality, as one might imagine.)

Hunza's slopes are so steep they must be terraced to the laborious construction of hand-built retaining walls of boulders. I measured one cultivated slope of 60 degrees—so steep that the retaining walls were twice as high as the miniature plots they supported. And sometimes Hunza farmers will even create arable soil on top of bare rock. After a crescent-shaped wall at the foot of any fairly gentle rock slope is built high enough so the top of the wall is level with the top of the slope, the wall is carefully chinked and mud-caked, then sandy water from the nearest irrigation ditch is admitted to make a small pond. When the sand settles out, the clear water is drained, and more sandy water is admitted. This process is repeated for about two years, until enough sand accumulates to allow cultivation.

Much of the "soil" of Hunza fields is thus not really soil. Rather, it is a jumble of unweathered boulders, gravel, and sand. Since Hunza is a cool but exceedingly dry desert, practically no plant food is formed. The scant rain that falls soaks rapidly through the spongy sand, leaches out any trace of plant food that may be present, and carries it down to the river. Not even sagebrush will grow on the unirrigated areas, so most slopes are barren. Newly irrigated areas are

● 134 311 we were told that Hunzas have told me, "If you irrigate new land, you must eat for five years somewhere else."

24 134 837 Hunzas are skilful at building a limited fertility into their sterile material, given enough time. All sheep manure is carefully saved, and the fields are fertilized with it four times during each growing season. Frequent irrigation works with summer warmth and mountain snow to decompose the manure rapidly. The growing plants thus have a few weeks of available food after each fertilization, before drainage again removes the plant food. Hunza farming is actually hydroponic gardening, with the soil functioning merely to anchor the plants.

Plainly, the plants will receive enough of only those foods that occur abundantly in sheep manure. Nitrates, phosphates, and probably calcium are deficient. Yields of wheat and alfalfa are notably lower per acre than are yields from better-fertilized American acres. Apricot trees generally have reddish leaves at the growing tips, a sure sign of soil deficiencies.

433 241 237 Even the most painstaking hydroponic gardening cannot compensate for deficiencies in the food chemistry. Moreover, their system makes Hunza one of the few countries where an agrarian economy is absolutely dependent upon the pastoral economy. 238 Even in the high mountain summer pastures, the sheep are carefully herded into small cotes in order to preserve each night's droppings. Every few days a man climbs down the steep trail with a load of manure on his back. Eventually, the fertility of the high mountain pastures is being transferred down to Hunza's fields.

403 161 167 Unfortunately, the human population has already grown so large that the fields cannot provide sufficient food. Hunzas are moving out of their country in rather large numbers. Although the exact total of annual emigrants is unknown, it is clear that most of them go to the lower villages near Gilgit, where they soon displace their less industrious Shuwa predecessors. Hundreds of Hunza's young men join the Pakistan army. Others take work as servants, where their honesty, industry, and common sense make them highly valued. The Hunzas realize, as certain Western tourists do not, that their country is a land of little food, and even less opportunity for the future, picturesque as it is.

Rdcliffe G-3 (1873-1878) 1880 [illegible]
4 AV3 Dard
Durusha AV7

173 proud of the independence they have always maintained, and
186 they probably present the spectacle of a race living under almost the same conditions now as their forefathers did fourteen centuries ago. The rulers are called *Thum*, and their families are descended from twin brothers, Moghlot and Girkis, who lived about the end of the fifteenth century. General
174 Cunningham makes the somewhat natural mistake of confounding Girkis with Kirghiz, and suggests that the former inhabitants of Hunza must have been Dards (?), who have since been displaced by the nomads of the Pamir. From this he goes on to argue that the rulers of Shigar must also be of Kirghiz blood; and following the same line of argument he states that the Astor district must once have belonged to the Tibetan race, because the ruling family are Makpons. He also mentions the Gilgitis as a race of Dardo-Tibetans, for which assumption there is no adequate foundation.[1]

643 I have been told by a Nepaulese gentleman that *Thum* is a Chinese title, meaning Governor, and that it is used in a reduplicated form *Thum Thum*, to signify a Governor General.[2] Its existence in these countries, where its origin has been completely lost sight of, is curious and must be extremely ancient.

The rulers of Nager, who are descended from the first-named of the two brothers, are called Moghloté, the present
161 Thum being Jaffer Zahid Khan. Though the smaller of the two states, Nager has the larger population, owing to the greater amount of cultivable ground which it contains.
• 134 The population is about 10,000 souls. The land where
135 cultivable is extremely fertile and bears exceptionably heavy crops, and the Nager streams are rich in gold. The country
439 is especially famous for its apricots, which are dried and exported to the Punjab in considerable quantities. Nearly opposite Hunza, the Myetsil River, a considerable stream, joins the
361 main river from the south-west. The fort of Nager and the Thum's house are on the southern side of this stream, about 3 miles from the junction, at an elevation of 8,000 feet
131 above the sea. Both sides of this valley belong to Nager, and it forms the eastern boundary of the state. At the head of it is the difficult and dangerous road over the Hispar Pass into the Shigar Valley, which is never used except in cases
000 of necessity. When Cashmere authority was temporarily

[1] Cunningham's *Ladakh*, pages 27, 28, 58, 295-7.

[2] It is perhaps a corruption of the —ord Tung, which appears in many titles. The Chinese Governor of Kashgharia is called Tsung Tung, and the officer who commands the troops is styled Tung-lung.

4 [See I: Cunningham, AV4 West Tibetan file -- Analyst]